

Remarks

In the office action, claims 1-11 and 13-30 were finally rejected for the reasons previously articulated. Specifically, claims 1-11 and 13-15 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,487,472 to Song et al. (“Song et al.”) and claims 16-30 were rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al. in view of U.S. Patent No. 5,805,722 to Cullen et al. (“Cullen et al.”).

In this response, Applicant has amended claims 18 and 29, and has canceled claims 5-10, and 19. Claims 1-4, 11, 13-18, and 20-30 are currently pending in this application. Applicant respectfully requests reconsideration and withdrawal of the rejections to the claims in view of the following remarks.

A. Response to Arguments:

The first paragraph of the office action, under the heading “Response to Arguments,” presents the Examiner’s reasons for disagreeing with Applicant’s previously presented arguments. Specifically, the Office rejected Applicant’s previous arguments that Song et al. does not disclose a “difference editor,” because:

[t]he office interprets the values, graphs, waveforms, text, diagrams, and the like from the display part as displaying differences between manufacturing data and standardization data (col. 8, lines 24-29 and col. 10, lines 10-28). The office interprets Figs. 10-19 as possible graphs, diagrams and the like [of] the display part.

Office action, Page 2, paragraph 1.

Applicant respectfully submits that this interpretation cannot be supported by the plain meaning of the claim language, because Song et al. includes no description for displaying differences between these two specific types of dissimilar data.

In claim 1, the “difference editor” is recited as displaying differences between “manufacturing standardization data” on the one hand, and at least one “electronic manufacturing data set” (corresponding to a local manufacturing process) on the other hand. “Manufacturing standardization data” is defined in the specification as “a *desired* set of data for a manufacturing process.” Page 3, lines 2-3. Song et al. does not describe any differences between these two different types of data being displayed.

The office action cites two passages of Song et al. (column 8, lines 24-29; and column 10, lines 10-28) for providing such a description. The first passage describes displaying results of an analysis of the “fabrication process and the operation of the fabrication systems 1 to N . . . with at least one of values, graphs waveforms, text, diagrams, and the like.” Column 8, lines 24-29. The second passage describes a display device 28a for “displaying the operation state of the etch chamber 76 analyzed by the control part 23a with at least one of values, graphs, waveforms, text, diagrams, and the like.” Column 10, lines 10-14.

These passages, however, do not describe displaying the claimed differences. Rather they describe displaying only data corresponding local manufacturing processes (i.e. “fabrication process,” “operation of the fabrication systems,” “operation state”), and thereby describe displaying one or more “electronic manufacturing data sets” as recited in claim 1. There is no description of displaying “desired data” for those local processes or anything else that could be deemed “standardization data”. There is also no description of displaying differences between those specific types of data -- nor could there be. Without describing any standardization data or desired data for the process, those passages cannot possibly be said to display “differences between” such standardization data and the “electronic manufacturing data” for that process.

The office action also referred to Figs. 10-19 of Song et al. as “examples of possible graphs, diagrams, and the like on the display part.” However, even assuming that they indeed show examples of data being displayed on the display part, Figs. 10-19 merely support the failure of Song et al. to describe the feature of displaying “differences between” local manufacturing data and standardization data. The graphs of these figures show actual electronics manufacturing data relating to the etching of wafers corresponding to one or more local processes. However, they do not include any desired data for those processes and thus do not show any standardization data. They also do not show any “differences between” the standardization data and the local manufacturing data.

2. Rejection of Claims 1-11 and 13-14 under 35 U.S.C. §102(e):

Claims 1-11, 13, and 14 were rejected under 35 U.S.C. §102(e) as being anticipated by Song et al. For the reasons stated in the previous section with respect to claim 1, Applicant respectfully requests withdrawal of the rejections to claim 1 and to dependent claims 2-4.

Applicant has canceled independent claim 5 and dependent claims 6-10 without prejudice.

Independent claim 11 recites a method for managing of electronics manufacturing data including the step of “displaying differences between the local electronics manufacturing data and the non-local electronics manufacturing data.” Just as Song et al. fails to describe displaying standardization data and fails to describe displaying differences between the standardization and local manufacturing data, so too does Song et al. fail to describe displaying non-local manufacturing data and fail to describe displaying differences between the non-local and local data. Applicant therefore respectfully requests withdrawal of the rejections to claim 11 and to dependent claims 12, 13, and 14.

3. Rejection of Claims 15-30 under 35 U.S.C. §103(a):

Claims 15-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Song et al. in view of Cullen et al.

Cullen et al. describes a method and apparatus for locating, inspecting and placing large leaded devices in a machine vision system. Cullen et al. does not describe comparing sets of manufacturing data or displaying their differences.

Claims 15-17 depend from claim 11 and include the feature -- missing from Song et al. -- of “displaying differences between the local . . . and the non-local electronics manufacturing data.” Applicant respectfully submits that Cullen et al. also provides no suggestion or motivation for that feature. Accordingly, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. §103(a) to dependent claims 15-17.

Applicant has amended independent claim 18 to include the feature of claim 19, which Applicant has canceled without prejudice. Independent claim 18 now recites a manufacturing system including “a display displaying differences between the first set of manufacturing data” related to a product manufactured by a first assembly line and the “standardization specification” for the product.

Song et al. does not describe displaying anything relating to a standardization specification for a product and does not describe displaying differences between a standardization specification for a product and a set of manufacturing data for that product. Cullen et al. provides no motivation or suggestion for the missing feature. Accordingly Applicant requests withdrawal of the rejections 35 U.S.C. §103(a) to claim 18 and to claims 20-22.

Independent claim 23 recites a printed circuit board assembly line that includes “a display . . . for comparing a first set of information regarding actual characteristics for the components and a second set of information regarding desired characteristics for the components.”

Song et al. does not provide any disclosure regarding either actual or desired characteristics for components being placed on a printed circuit board. Furthermore, while Song et al. may teach the displaying of actual manufacturing data, it fails to teach displaying desired data and does not teach displaying desired characteristics for components. Song et al. also does not teach a display for comparing actual and desired data for components. Cullen does not provide any motivation or suggestion to arrive at any of these missing concepts. Applicant therefore requests withdrawal of the rejections under 35 U.S.C. §103(a) of independent claim 23 and of dependent claims 24 and 25, which depend from claim 23.

Independent claim 26 recites a method of displaying differences between two sets of electronics manufacturing data. The method includes displaying data including a list of components being used in an assembly line on a section of a display, and displaying data including another list of components desired to be manufactured on another section of the display. The method also includes “displaying differences between” the list of components being used and the list of components desired to be manufactured.

Song et al. teaches nothing about displaying component lists, nothing about displaying desired data (as opposed to actual data) and nothing about displaying differences between the actual data with the desired data. Cullen et al. provides no teaching or motivation for any of these features. Applicant therefore requests withdrawal of the rejections under 35 U.S.C. §103(a) of independent claim 26 and of dependent claims 27 and 28, which depend from claim 26.

Independent claim 29 recites a method for manufacturing a printed circuit board. Applicant has amended claim 29 to include the additional step of “transferring a set of electronics manufacturing standardization data to the display, and to clarify that the comparison is made between the first set of electronics manufacturing data and the standardization data on the display.

As stated in the discussion regarding claim 1, Song et al. fails to teach the display of standardization data (defined in the specification as desired data for the manufacturing process) and further fails to enable a comparison between that standardization data and other manufacturing data. Cullen et al. also fails to provide any suggestion or motivation for these features. Applicant accordingly requests withdrawal of the rejections under 35 U.S.C. §103(a) of independent claim 29 and of dependent claim 30, which depends from claim 29.

CONCLUSION

For at least the reasons stated above, Applicant requests withdrawal of the rejections to claims 1-11 and 13-30. It is respectfully submitted that the application is now in condition for allowance.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Frank Nuzzi", is written over a horizontal line.

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